

Remarks/Arguments

Claims 1-33 remain in this application.

The examiner has rejected claims 11-18 under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The examiner has rejected claims 1-5, 7-13, 15-26 and 28-33 under 35 U.S.C. 102(e) as being anticipated by US Patent 6,834,360 B2 to *Corti, et al.*

The examiner has rejected claims 6, 14 and 27 under 35 U.S.C. 103(a) as being unpatentable over *Corti, et al.*, in view of US Patent 6,694,489 B1 to *Case, et al.*

In view of the above amendments and these remarks, reconsideration of the above noted objections is respectfully requested.

Rejections Under 35 USC 101:

Applicant respectfully traverses the rejection of **claims 11-18**, as amended, under 35 U.S.C. 101. The above amendments to claim 11 are in accordance with the recommendations made by the Examiner. Applicant submits, therefore, that the above amendments to claim 11 cure the grounds for this rejection.

Rejections Under 35 USC 102(e):

Applicant respectfully traverses the rejection of **claims 1-5, 7-13, 15-26 and 28-33** under 35 U.S.C. 102(e) as being anticipated by *Corti, et al.* The independent claims are **1, 11, 19, 22, 24, 29, 30 and 33** and have been amended above.

Amended independent **claim 1** recites (among other limitations):

initiating a process in the computer system, the process including instructions and **running on a processor** in the computer system;

launching a debugger program that is embedded in a ROM of the computer system, the debugger program **running on the processor**;

executing at least part of the instructions **by the processor**; and

the debugger program operating on at least part of the executed instructions.

Additionally, amended independent **claim 11** recites (among other limitations):

at least one **processor**;

...

a target process having instructions, **executable by the processor**; and

a debugger program embedded within the ROM, **executable by the processor**, to operate on at least part of the instructions of the target process.

In addition, amended independent **claim 19** recites (among other limitations):

a processor in the target computer;

a target process having instructions **executable by the processor** ...; and

a debugger program embedded in the ROM and **executable by the processor** ... to generate data on the execution of at least part of the instructions of the target process

Furthermore, amended independent **claim 22** recites (among other limitations):

a means for executing a target process;

a ROM-embedded means for interrupting the execution of the target process ..., the interrupting means being **executable by the target process executing means**;

a ROM-embedded means for disassembling ..., the disassembling means being **executable by the target process executing means**;

...; and

a ROM-embedded means for capturing a trace ..., the trace capturing means being **executable by the target process executing means**.

Also, amended independent **claim 24** recites (among other limitations):

a processor;

...

a target process having executable instructions that are **executable by the processor**; and

a debugger program embedded within the ROM and having a disassembler and a trace capturer that are **executable by the processor**

In addition, amended independent **claim 29** recites (among other limitations):

a **processor**;
a target process having executable instructions that are
executable by the processor; and
a debugger program that is **executable by the processor**;
and wherein:
when the switch is off, the debugger program cannot be
launched **in the processor**; and
when the switch is on, the debugger program can be
launched **in the processor**

Further, amended independent **claim 30** recites (among other limitations):

launching, in a **processor** of the computer system, a
debugger program from a read-only memory (ROM) of the computer
system, the ROM having a boot process and the debugger program
embedded therein, the debugger program having a disassembler and
a trace capturer;
interrupting execution, **in the processor**, of the target
process at an instruction;
the disassembler disassembling, **in the processor**, the
instruction; and
the trace capturer capturing a trace, **in the processor**, of
the instruction.

Additionally, amended independent **claim 33** recites (among other limitations):

when the switch is set to the off state, preventing
execution of a debugger program **in a processor** of the computer
system; and
when the switch is set to the on state:
launching the debugger program **in the processor**;
interrupting, **in the processor**, execution of the target
process at an instruction; and
the debugger program operating, **in the processor**, on
the instruction.

Applicant respectfully submits that *Corti, et al.* does not teach or suggest these limitations. (Amendments to independent **claims 1, 11, 19, 22, 24, 29, 30 and 33** are supported in the specification at [0022], [0026]-[0028] and [0040].

Corti, et al. appears to disclose a system on a chip (SOC) with an on-chip logic analysis (OCLA) unit that is a **hardware component** on the chip that is completely **separate** from the components of the chip that the OCLA unit is

monitoring. By being separate from the monitored component (i.e. the DSP core logic), but integrated on the same chip as the monitored component, the OCLA unit can provide real-time data acquisition without interrupting operations of the monitored component. (See Figs. 1 and 2; column 1, lines 53-67; and column 2, lines 15-48.) This setup is a very powerful debugging and testing scheme.

However, it has the disadvantage of requiring space on the chip for the OCLA unit. Such space is always at a premium, as chip manufacturers continue to pack ever more components into each new generation of integrated circuit chips.

Nevertheless, it is necessary in *Corti, et al.* to make this tradeoff between chip-space and real-time-monitoring, because it is not possible to use traditional emulation schemes that rely on the ability to start and stop the processor in order to single-step through machine code. To use such a single-step scheme "may cause a disastrous result." (See column 1, lines 26-39; and column 3, lines 15-22.) Thus, the system in *Corti, et al.* apparently does not teach or fairly suggest a process and a debugger program (embedded in a ROM and operating on instructions of the process), both of which run on the **same processor** (or executing means), as called for in the amended independent **claims 1, 11, 19, 22, 24, 29, 30 and 33**. As a result, *Corti, et al.* also apparently does not teach or fairly suggest a disassembler and a trace capturer (or a disassembling means or trace means) that are **executable by the processor** (or the executing means), called for in amended independent **claims 22, 24 and 30**. Applicant respectfully submits, therefore, that independent **claims 1, 11, 19, 22, 24, 29, 30 and 33**, as amended, are not anticipated by, are not obvious in view of, and are patentable over *Corti, et al.* at least because the reference does not teach or fairly suggest these limitations.

Regarding dependent claims: Since **claims 2-5, 7-10, 12, 13, 15-18, 20-26, 28, 31 and 32** depend from amended independent claims **1, 11, 19, 22, 24 and 30**, Applicant respectfully submits that these claims also are not anticipated by, are not obvious in view of, and are patentable over *Corti, et al.* at least for the same reasons.

Rejection Under 35 USC 103(a):

Applicant respectfully traverses the rejection of **claims 6, 14 and 27** under 35 U.S.C. 103(a) as being unpatentable over *Corti, et al.*, in view of *Case, et al.* **Claims 6, 14 and 27** depend from amended independent claims 1, 11 and 24, which are not anticipated by, are not obvious in view of, and are patentable over *Corti, et al.*, as described above. Applicant submits that *Case, et al.* does not cure the above-described deficiencies of *Corti, et al.* Therefore, Applicant respectfully submits that dependent **claims 6, 14 and 27**, as well as the rest of the claims, are not anticipated by, are not obvious in view of, and are patentable over *Corti, et al.*, in view of *Case, et al.* at least because the references do not teach or fairly suggest a process and a debugger program which run on the **same processor**.

Conclusion:

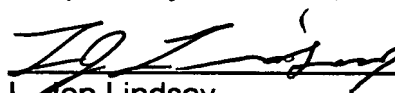
For the reasons specifically discussed above, and others, it is believed that pending **claims 1-33** define patentable subject matter. Reconsideration of the previous rejections and objections as they might apply to the pending claims is therefore respectfully requested. Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

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